Amendments to the Claims:

The following listing of claims replaces all prior versions and listings of claims in the application:

1. (Currently Amended) A method comprising:
estimating a number of active stations in a communication network based on a number of stations from which transmissions are received during a pre-defined time period; and
adapting a size of a contention window of a collision avoidance mechanism based on [[an]] the estimated number of active stations of [[a]] said communication network.

2. (Original) The method of claim 1, comprising dynamically modifying the size of said contention window.

3. (Original) The method of claim 1, comprising modifying a parameter used in computing the size of said contention window.

4. (Original) The method of claim 3, comprising modifying a parameter indicating a minimum size of the contention window.

5. (Original) The method of claim 3, comprising modifying a parameter indicating an initial maximum size of the contention window.

6. (Original) The method of claim 3, comprising modifying a parameter indicating a non-initial maximum size of the contention window.

7. (Original) The method of claim 3, comprising modifying the size of the contention window in relation to an estimated probability of collisions.

8. (Original) The method of claim 1, comprising sending a signal indicating a request for modification of the size of the contention window.

9. (Original) The method of claim 1, comprising modifying a threshold value of a request-to-send mechanism.

10. (Currently Amended) An apparatus comprising:
a processor to estimate a number of active stations in a communication network based on a number of stations from which transmissions are received during a pre-defined time period, and to adapt a size of a contention window of a collision avoidance mechanism based on an estimated number of active stations of a communication network.

11. (Original) The apparatus of claim 10, wherein the apparatus comprises a wireless modem.

12. (Original) The apparatus of claim 10, wherein the apparatus comprises a wireless access point.

13. (Original) The apparatus of claim 10, wherein the processor is to modify a parameter used in computing the contention window.

14. (Original) The apparatus of claim 13, wherein the parameter used in computing the contention window comprises a parameter indicating a minimum size of the contention window.

15. (Original) The apparatus of claim 13, wherein the parameter used in computing the contention window comprises a parameter indicating an initial maximum size of the contention window.

16. (Original) The apparatus of claim 13, wherein the parameter used in computing the contention window comprises a parameter indicating a non-initial maximum size of the contention window.

17. (Original) The apparatus of claim 10, wherein the processor is to adapt the size of said contention window based on an estimated probability of collisions.

18. (Original) The apparatus of claim 10, wherein the processor is to modify a threshold value of a request-to-send mechanism.

19. (Original) A wireless communication device comprising:
a dipole antenna; and
a processor to estimate a number of active stations in a communication network based on a number of stations from which transmissions are received during a pre-defined time period, and to adapt a size of a contention window of a collision avoidance mechanism based on an estimated number of active stations of a communication network.

20. (Currently Amended) The wireless communication device of claim [[22]] 19, wherein the processor is to dynamically modify a parameter used in computing the contention window.

21. (Currently Amended) The wireless communication device of claim [[22]] 19, wherein the processor is to dynamically modify a threshold value of a request-to-send mechanism.

22. (Currently Amended) A wireless communication system comprising:
a ~~station~~ wireless access point to estimate a number of active stations in said wireless communication system based on a number of stations from which transmissions are received during a pre-defined time period, and to transmit a signal indicating adaptation of a size of a contention window of a collision avoidance mechanism based on [[an]] the estimated number of active stations of said wireless communication system; and
a wireless communication device to receive the signal and adapt a size of the contention window.

23. (Original) The wireless communication system of claim 22, wherein the signal comprises a signal indicating modification of a parameter used in computing the contention window.

24. (Original) The wireless communication system of claim 22, wherein the signal comprises a signal indicating modification of a threshold value of a request-to-send mechanism.

25. (Original) A machine-readable medium having stored thereon a set of instructions that, if executed by a machine, cause the machine to perform a method comprising:
estimating a number of active stations in a communication network based on a number of stations from which transmissions are received during a pre-defined time period; and
adapting a size of a contention window of a collision avoidance mechanism based on [[an]] the estimated number of active stations of [[a]] said communication network.

26. (Original) The machine-readable medium of claim 25, wherein the instructions result in dynamically modifying the size of said contention window.

27. (Original) The machine-readable medium of claim 25, wherein the instructions result in modifying a threshold value of a request-to-send mechanism.